

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III - 6th & Walnut Sts.

Philadelphia, Pa. 19106

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051...
(rec)

SUBJECT: Immediate Removal Request for the Shaffer
Equipment Site, Fayette County, Minden,
West Virginia

DATE: DEC, 26, 1974

FROM: Robert E. Caron, On-Scene Coordinator
Emergency Response Section (3HW22)

TO: Thomas P. Eichler
Regional Administrator (3RA00)

THRU: Stephen R. Wassersug, Director
Hazardous Waste Management Division (3HW00)

I. General Information.

A preliminary assessment performed in accordance with the National Contingency Plan has identified an immediate and significant risk of harm from a direct contact threat posed by the presence of severely contaminated soils and leaking transformers and capacitors containing polychlorinated biphenyls (PCBs) located on this site.

The Shaffer Equipment Company site is located on West Virginia Route 17 in Minden, West Virginia. Minden is a small coal town located in Fayette County with approximately 2000 residents. There are an estimated 65-75 people who live within 1/8 mile of the site. The Shaffer Equipment Company is an operating firm that builds electrical substations for the local coal mining industry. Many of their units incorporate various sizes of transformers, capacitors, switches and other voltage regulation/distribution devices. The company has operated since 1970. Past practices involved the storage of unneeded, damaged or outdated transformers and capacitors on the one acre site. Leakage from these units and associated storage practices appears to be responsible for the severe PCB contamination problem that presently exists on site.

The site is approximately one acre in size and contains a single building which is both a workshop/warehouse and office. The site is relatively flat and slopes toward the west. Arbuckle Creek is located down gradient and to the west and has been shown to contain PCBs in the sediment. (194ppm)

The State Official requesting assistance is:

Mr. Ron Shipley, Assistant Director
Department of Natural Resources
State of West Virginia
1800 Washington Street, East
Charleston, W.Va. 25305
(304) 348-2754

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II. Hazardous Substances Involved

PCB has been found in soils and sediment on site. Levels as high as 27% have been found in heavily stained soils. It is estimated that approximately 1000 cubic yards of soil has been contaminated with PCB in excess of 50 ppm. In addition, there are an estimated 150 transformers, 60 capacitors and 75 drums on site. Labels were found which indicate that some transformers and capacitors are filled with PCB fluids.

PCBs have been demonstrated to cause cancer in animals and are suspect human carcinogens. PCBs can cause liver damage, skin pigmentation and chloracne. PCBs can cross the placenta to a fetus and can concentrate in mothers' milk. PCBs may also increase the production of certain liver enzymes increasing the sensitivity to other chemicals. PCBs also are known to bioaccumulate, becoming incorporated in the fatty tissue and can therefore, contaminate the food chain.

III. Methods Used to Gather Data

All sampling methodology was performed using EPA approval protocols. Laboratory data conforms to EPA procedures and is backed with quality control protocols, as specified by EPA.

IV. Threat to Human Health

It is estimated that between 65-75 people live within 400-500 feet from this site. The principle threat to human health appears to be from direct contact. The site is unfenced and is easily accessed. There are documented cases of vandalism on site involving transformers and capacitors by local youths. The nearest residence is less than 200 feet from the site and there is a basketball court located within 100 feet. The sampling program initiated during the preliminary assessment phase indicates that PCBs are migrating off site. PCB has been found in the sediment of Arbuckle Creek as high as 194ppm and was also detected in a stream water sample at 4 ppm. Arbuckle Creek flows directly through the town of Minden and eventually into the New River.

Who Certifies the Threat to Human Health

Dr. Mark McLanahan
Centers for Disease Control
Atlanta, Georgia

Dr. Abdul Qazi
West Virginia Department of Health

V. Threat to the Environment

PCBs have been shown to be migrating from the site to Arbuckle Creek. Levels as high as 190ppm have been shown to exist in stream sediments. A water sample collected downstream indicates that there are PCBs in the water column, however, laboratory analytical problems resulted in an artificially high reported value of 4ppm. ~~Available data indicate~~ the presence of suspended solids in the sample. Available data indicate that PCB is acutely toxic to freshwater aquatic life at levels in excess of 2 ppb. Also, as noted previously, PCBs are known to bioaccumulate and it has been shown that food chain contamination can occur when PCBs are present.

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VI. Summary of Overall Threat

Soils severely contaminated with PCB and unsecured PCB filled transformers and capacitors present a direct contact threat to nearby residents. Unsecured access and the close proximity of the residents makes this a likely possibility. PCBs have been shown to be migrating off site at significant levels into a nearby stream (Arbuckle Creek) which runs directly through the town of Minden, West Virginia.

VII. Expected Changes in Situation Should no Action be Taken

No action would allow for continued significant off site migration of PCBs into Arbuckle Creek which flows directly through the town of Minden, WV. In addition, continued contamination of soils by leaking PCB transformers and capacitors may enable off site migration of PCB contaminated soils directly into residential areas.

No action would allow the direct contact threat to continue. The site is unsecured, located within 200 feet of residential areas and is known to be frequented by local youths. Vandalism of transformers has been documented, causing additional spills and leaks.

VIII. Need for Federal Action

The State of West Virginia does not regulate PCBs and therefore has no jurisdiction over this incident. However, a State inspector is responsible for finding and reporting this site to EPA. A TSCA inspection was performed on October 30, 1984 and indicated that the present contamination on site probably occurred prior to the TSCA regulation. This report is presently in draft form only. Preliminary findings indicate that the present owner/responsible party is unable to perform an adequate cleanup due to monetary concerns. The nature of the contamination and the threat to public health requires the initiation of an Immediate Removal under CERCLA.

IX. Response Options

A) No Action - No action will allow the direct contact threat to continue and, in addition, PCB migration off site will continue, further spreading contamination and increasing the scope of the problem.

B) Containment Only - This option addresses only the off site migration problem. By erecting a fence the direct contact problem could be addressed. However, the nature of the soils (high porosity), the severity of the contamination (percent range) and the close proximity of both the stream and residences makes this a difficult option to complete. Engineering structures such as caps, covers and erosion control would be costly and require long term maintenance and sampling to insure integrity.

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C) Proposed Option

- Phase I
- Initial short term containment
 - Control and Stabilize
 - Properly store and patch leaking transformers/capacitors
 - Use of berms, silt fence and grading to control off site migration
 - Temporary security measures (i.e. snow fence, signs and security guard)
 - Estimated 14 days
- Phase II
- Measuring and sampling
 - Identify complete scope of contamination problem
 - Identify areas of concern for work under Phase III
 - Estimated 14 days - Concurrent with Phase I
- Phase III
- Excavation, Disposal Feasibility Study
 - Determine total project scope for disposal
 - Investigate all available alternatives
 - Develop Accurate cost estimates
 - Estimated 60 days
- Phase IV
- Excavation, Disposal
 - To be developed in an additional funding request upon completion of Phase III.
 - Estimated 30 days

X. Proposed Response Action

The OSC considers the proposed response action (Section IX-C) to be the best available option to address this site. It provides for initial emergency measures to control and stabilize this site and further provides for time and funds to investigate best options and allow for a cost effective response.

Proposed Budget:

Phase I	- Initial containment - Control and stabilize	
	Estimated Costs	\$ 80,000
Phase II	- Measuring and Sampling	25,000
Phase III	- Disposal Feasibility Study	20,000
USCG/AST	-	15,000
TAT	-	20,000
	Total Extramural Cost	\$160,000
EPA (Intramural)		15,000
	Total Project Cost	\$175,000

*Note: Phase IV - Excavation and Disposal to be covered in an additional funding request upon completion of Phases I, II and III.

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Regional Recommendation

Because conditions at the Shaffer Equipment Site are consistent with the Immediate Removal Criteria in Section 300.65 of the National Contingency Plan, I recommend you approve this Immediate Removal request. The estimated total project costs are \$175,000 of which \$160,000 are extramural cleanup contractor costs. You may indicate your approval or disapproval below.

Approval


Acting for Regional Administrator

Date

12/26/84

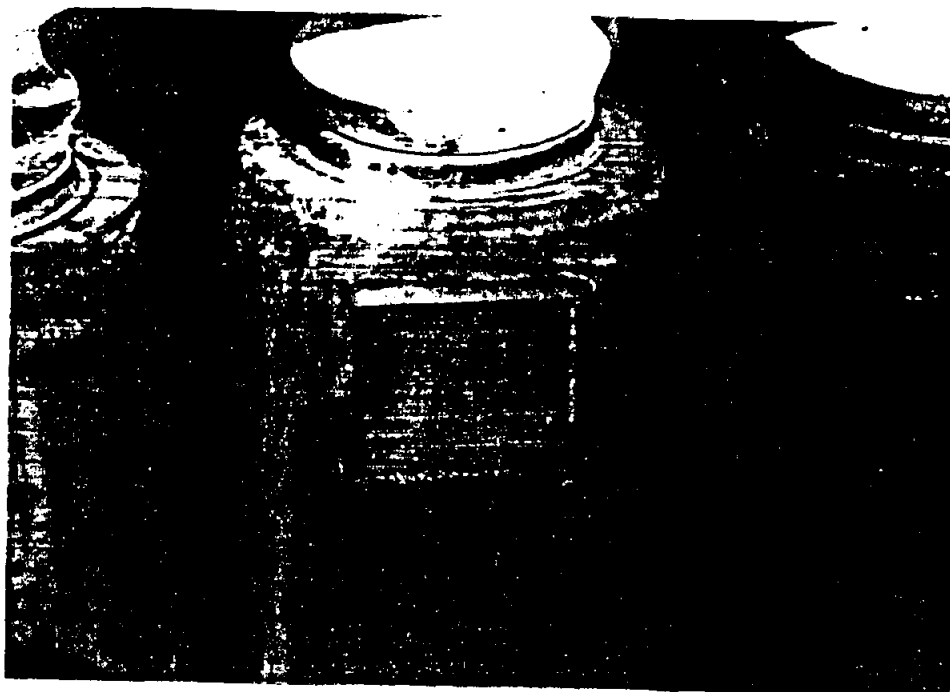
Disapproval

Date

Attachments

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CAPACITOR LABEL-PCB FILLED

AC T. GREENLEAFS AC
TRANSFORMER
 CHLOROTOL LIQUID FILLED

TYPE	CONTINUOUS	W	45.0
WINDING		W	
BLANK	250 AMP	PHASE	3
VOLTS W Wdg.	1000		
VOLTS H Wdg.			
VOLTS Y Wdg.			
SERIAL	1000000		
PERCENT IMPEDANCE AT 75°C		1.00%	
THIS TRANSFORMER IS FILLED WITH A SPECIAL NON-FLAMMABLE LIQUID.			
PITTSBURGH, PENNA. U.S.A.			

APPROXIMATE WEIGHTS

WGT. SHOWN UNTANKING	30.0 LBS.
WGT. & FITTINGS	37.50 LBS.
CHLOROTOL LIQUID	42.90 LBS.
TOTAL	110.40 LBS.
APPROXIMATE CHLOROTOL LIQUID	33.0 GALS.
COMPARTMENT	33.0 GALS.
COMPARTMENT	33.0 GALS.
TOTAL	33.0 GALS.
WGT. REQUIRED TO UNTANK	15.0 LBS.

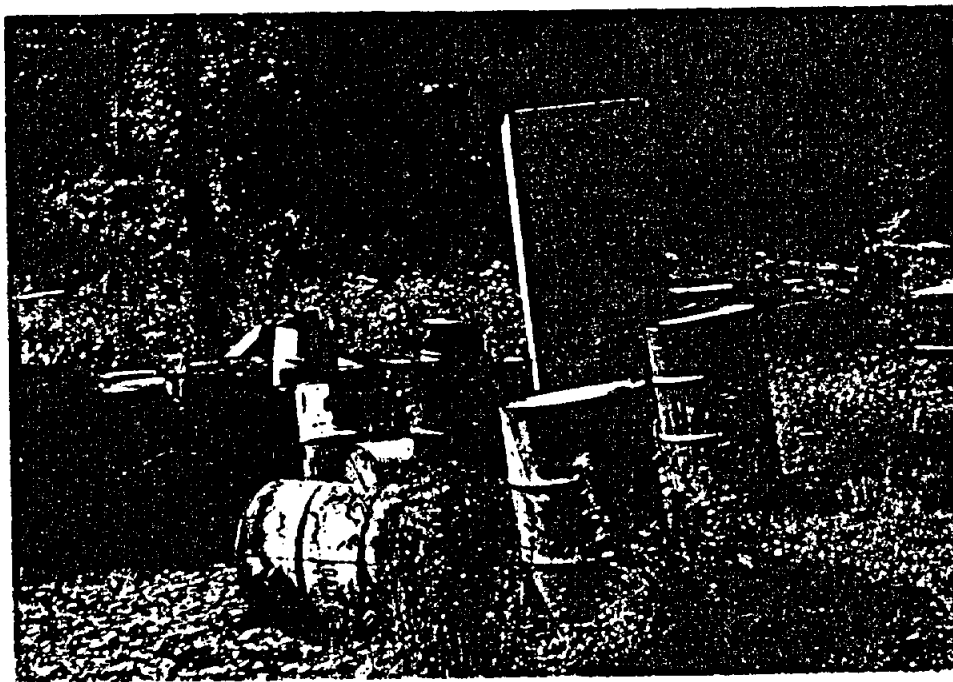
TRANSFORMER LABEL-PCB FILLED

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ON-SITE STORAGE PRACTICES OF TRANSFORMERS
AND CAPACITORS



DRUM STORAGE

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CAPACITORS WITH BROKEN INSULATORS
NOTE STAINED SOIL IN FOREGROUND



PROXIMITY OF RESIDENCES

AR300009

+9.1
+21

+41.0

+6

+3.9

+11,000 +20
+60

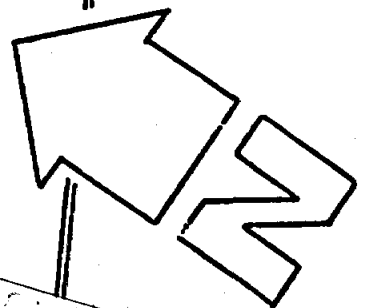
+4% (check for 1254)
+110

+3.5

+11

+130 +22 +12
+17

+110

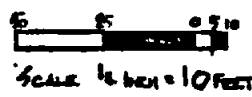
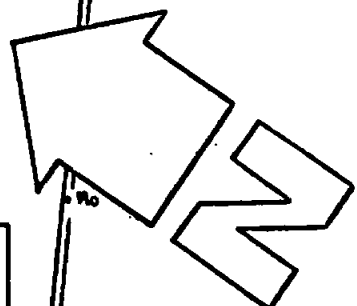


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POTENTIAL HOT
 SPOT 10/3/04
 ASSESSMENT NOTED:
 7 TRANSFORMERS
 29 CAPACITORS
 27 55-gal DRUMS
 HOWEVER WAS NOT SAMPLED
 - 11/2/04 DUE TO
 INACCESSIBILITY

APPROXIMATE ROUTE OF STREAM



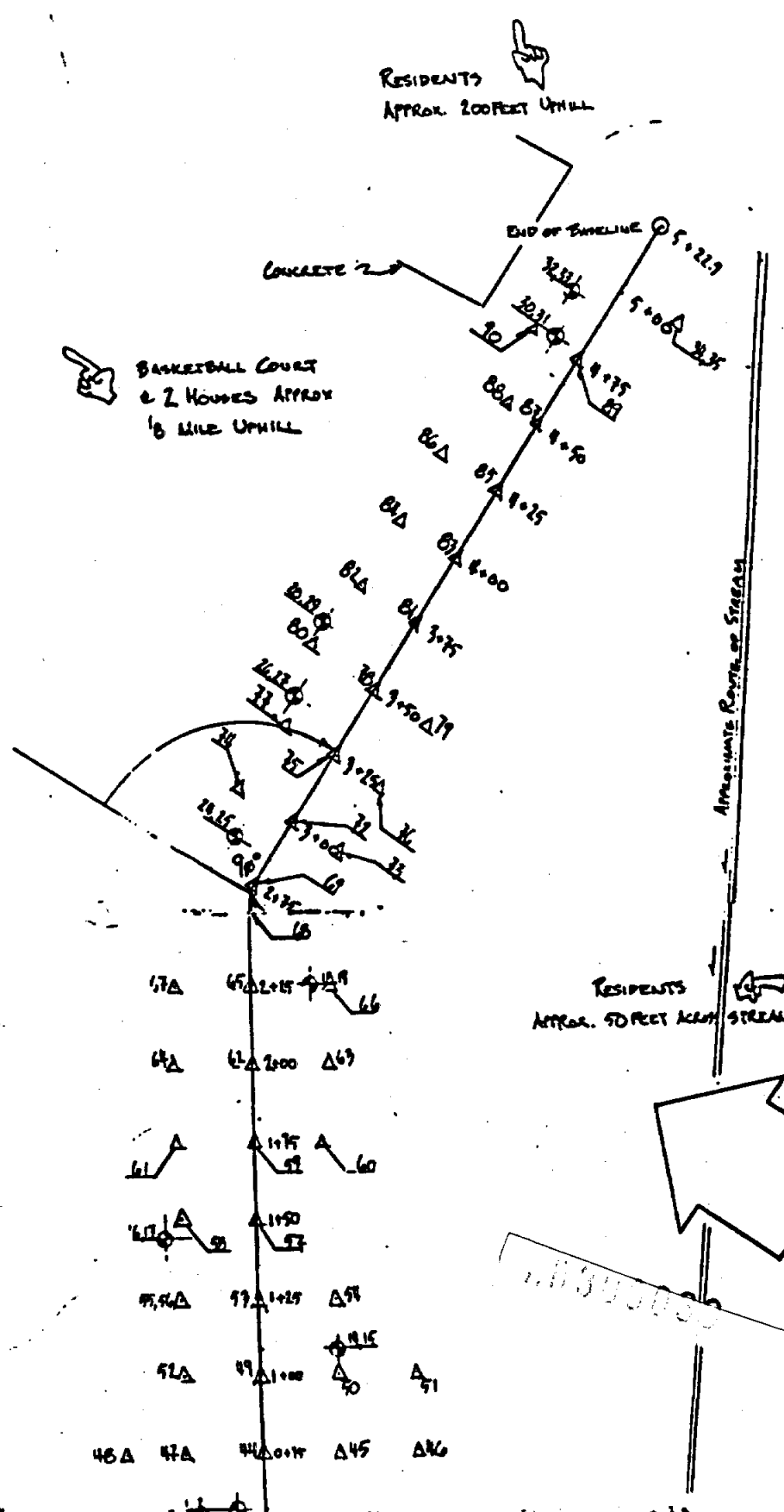
LEGEND

- (ALL PCB CONCENTRATIONS ARE IN PPM, UNLESS SPECIFIED)
- ▲ 10/3/04 SAMPLING
 - † 11/2/04 SAMPLING (LOCATION ARE APPROX.)
- REAR OF OFFICE BUILDING
- ▲ 424 (DOWNSTREAM - OFF SITE)

ARCHER TYPE 1250

SHAFFER ELECTRIC	
EXTENT OF CONTAMINATION (SURFACE)	
DRUGS	11/2/04 TATS

AR3000-1



+3.1
+2.1

+41.4

+6

+3.9

+11,000
+20
+65

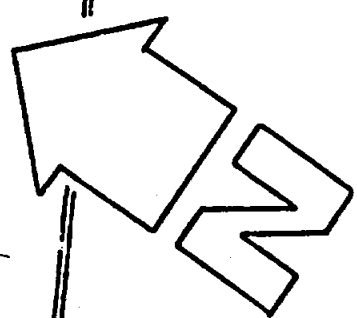
+110
4% (Arachlor 125)

+3.5

+R

+180
+22
+7

+110



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